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| 10/672,274 | 09/24/2003 | Christopher C. Toly | SIMU0008 | 9373 |

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| EXAMINER |
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HADZONOZ, BANAFSHEH

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| ART UNIT | PAPER NUMBER |
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3715

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11/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/672,274

Applicant(s)

TOLY, CHRISTOPHER C.

Examiner

Banafsheh Hadizonooz

Art Unit

3715

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 24, 49-63, 66, 70, 71, 75, 76 and 88-93 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 24, 49-63, 66, 70-71, 75-76, 88-93 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Detailed Action

In response to the amendment filed on 11/21/2007 claims 24, 49-63, 66, 70-71, 75-76 and 88-93 are pending in this office action. Claims 25, 26, 64, 65, 67-69, 72-74 and 77-87 are canceled. This office action is made **Final**.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 24, 49-59, 61-63, 66, 71, 75, 76 and 88-93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lacey et al (US 2005/0084833) in view of Petelin et al (US 5,436,542).

[Claim 24, 50,61]: Lacey discloses a system comprising a housing defining a practice volume (e.g. body), a digital video camera disposed within the practice volume, the digital camera being configured to capture a plurality of frames per second, such that the digital video camera can provide a digital video feed of at least a portion of the practice volume (e.g. perspective views)(See P.1, [0005]-[0014]) and a support structure such as a boom comprising an elongate member(e.g. adjustment handle), having a proximal end disposed outside of the practice volume, and a distal end disposed inside the practice volume (See Fig 2, element 20), the digital video camera

being coupled with the distal end of the elongate member such that manually changing a position of the proximal end of the elongate member results in a video camera externally of the elongate member. (See P.2, [0042]-[0043]). Lacey does not specifically disclose first and second brackets configured to movably and slidably support the elongate member in order to adjust the amount of elongate member disposed within the practice volume and to adjust the position of the video camera. However, Petelin discloses a telescopic camera mount that controls the motion of the camera vertically and horizontally (See Abstract). The camera mount has a first adjustable bracket (See figure 1 element 42) and a second adjustable bracket (See Figure 1, and figure 10 element 176) which enables a position of digital camera coupled to the distal end of the elongate member (e.g. figure 1, element 20) to be tilted. Petelin further discloses a support member (see figure 1 element 60 and figure 10 elements 40 and 172) configured to support the second adjustable bracket to pivotally engage the housing (See Figure 10 and Col.12, 30-68 and fig.11). Lacey/Petelin do not specifically disclose that the proximal end of the support member is disposed inside the practice volume. However, the applicant has not disclosed that this feature solves any stated problem or is of a particular purpose. Moreover, one of ordinary skill in the art would expect that the structure of the Petelin's invention provide the same panning motion with the proximal end of the support structure located outside the practice volume. Therefore, it would have been obvious to one of ordinary skill to modify Petelin's support member to position the proximal end inside the practice volume because such modification is

considered to be a matter of design choice and does not patentably distinguish the claimed invention.

Regarding claims 51 and 52 Petelin further discloses a support structure that is configured to slidingly engage the boom and adjust the extend by which the boom slides within the practice volume at a substantially non-normal angel (See Col.12, 40-50 and Col.14, 18-24 and figure 1).

With respect to claim 53, Petelin further discloses that the support member is configured to enable the camera to be moved in a tilting motion (See Col.1, 55-61 and Figures 1 and 10 and 12-13).

Regarding claims 54 and 55, Petelin further discloses two adjustable members to control the extent and the position of the elongate member (see figure 10, elements 42 and 176, col.12, 40-50 and col.13, 5-11). Petelin further discloses first and second portions that are pivotally engaged (See Figure 11, Col.12, 61-Col.13, 11).

Regarding claims 56 and 66, Lacey discloses wherein the proximal end of the elongate member comprises a handle configured to simulate a handle of a laparoscope (See Figure 2, elements 5 and 20). Petelin further discloses an electrical conductor from the digital camera passing through the handle and extending to the display device (See Col.3, 13-24).

Regarding claim 57, Petelin discloses a hollow shaft (See figure 1 element 20, Col.4, 1-5) that is connected to a display.

With respect to claims 58, 59 and 71, Lacey/Petelin do not specifically disclose a camera capable of capturing thirty frames per second or a web camera. However, at the

time the invention was made, it would have been obvious to one of ordinary skill in the art to include a web camera capable of capturing at least thirty frames per second since such technology is well known in the industry.

Regarding claims 49, 62, 76, Lacey further discloses wherein the digital video camera is substantially larger than a smallest incision that would be required to insert the laparoscope into a body of patient (See Figure 2, the incisions are smaller than the camera showed in Figure 3).

Regarding claim 63, Lacey discloses a video camera that facilitates capturing the perspective views of the practice volume, wherein the adjustment handle of the camera is protruded from the housing. Lacey, however, does not disclose a ball head camera that enables the panning and tilting of the camera. However, the examiner takes official notice that it would have been obvious to use a ball head camera in order to give the trainee a better control over adjustment of the camera, because such feature is well known in the industry.

Regarding claim 75, Lacey discloses a surgical training system for practicing surgical technique comprising a practice volume including an orifice disposed on the upper surface of the housing and a digital image sensor (e.g. camera) within the practice volume, the image sensor producing video signals conveying images for at least a portion of the practice volume (See P.1, [0005]-[0014]).

Lacey does not specifically disclose a support structure configured to support and to position the image sensor. Petelin discloses a support structure comprising a shaft and an elongate member, the elongate member having the proximal end disposed

outside the body and the distal end disposed inside the practice volume (See figure 1, element 20 and 42), the digital image sensor being coupled with the distal end disposed inside the practice volume such that change in the position of the distal end of the elongate member results in change in the position of the digital image sensor (See Figure 1, Col.3, 13-24). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the image capturing and the support structure of the Petelin's invention into the system and method of Lacey in order to enable the trainers to better navigate the camera inside the practice volume.

Regarding claim 88, Lacey's system further comprises the steps of: Introducing at least one exercise object into a practice volume of a surgical trainer (See Fig.1, element 5), using the imaging device (e.g. camera) to produce a signal conveying images of the at least one exercise object from a first position within the surgical trainer, wherein the imaging device is substantially larger than a distal end of a conventional laparoscope, such that the imaging device is too large to pass through an incision used to introduce such conventional laparoscope into a patient (See Fig 2 element 10), displaying the video images(e.g. actual video display) of at least one exercise objects conveyed by the signal in regard to the second position(See Figure 5, image 1...n). Lacey does not specifically disclose first and second brackets in order to manipulate boom. Petelin discloses a camera support system comprising adjustable brackets (see figure 10, elements 176 and 42) used to adjust the boom that movably supports the imaging device at the distal end of the boom so that the imaging device produces a

signal conveying images of the exercise object within the surgical trainer (See Col.12, 30-50, Col.11, 42-55 and abstract). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of the Petelin's invention into the system and method of Lacey in order to design a system that enables the trainer to better navigate the digital imaging system inside the practice volume.

With respect to claim 89, Petelin discloses a shaft lock and a thumb screw extended outward that is used to hold the camera rigidly in place (See Col.12, 40-50).

Regarding claim 90, Lacey's method further comprises the step of transmitting data over a network that can be used to display images collected by the imaging device. (See P.3, [0066]).

Regarding claim 92, Petelin further discloses that the steps of manipulating boom further comprises zooming in, zooming out, tilting and panning the image device (See Abstract).

With respect to claim 93, Lacey discloses a surgical training simulator comprising a housing defining a practice volume, a digital camera disposed within the practice volume, the digital video camera producing a digital video signal conveying the images of the practice volume and a handle configured to simulate a handle of a laparoscope, which is extended outwardly away from the frame (See P.1, [0005]-[0014] and figure 1, element 5). Lacey does not specifically disclose an electrical conductor extending from a distal end of the handle to the digital video camera, and extending from the proximal end of the handle such that the display device is configured to process the images provided. Petelin discloses such in his invention (See Col.3, 13-24). Therefore, it would

have been obvious to one of ordinary skill in the art to incorporate the features of the Petelin's invention into the system and method of Lacey in order to design a system wherein the camera is moveable inside the practice body.

Claim 60 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lacey et al (US 2005/0084833) in view of Petelin et al (US 5,436,542) further in view of Younker (US 5,722,836).

Claim 60 is rejected for the reasons given above for claims 24. Petelin further discloses the feature of portable (e.g. releasable) camera (See Col.13, 12-27). Lacey/Peteline do not specifically disclose a housing comprising a collapsible frame. Younker discloses a videoendoscopic surgical trainer, wherein the frame is collapsible and the practice volume is accessible from the side openings (See Col.4, 10-16 and figure 1). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the features of the Younker's invention into the system and method of Lacey/Peteline in order to design a portable surgical training system.

Claim 70 is rejected under 35 U.S.C 103(a) as being unpatentable over Lacey (US 2005/0084833) in view of Petelin et al. (US 5436542) further in view of Day (GB 2338582 A).

[Claims 70]: Lacey discloses a surgical trainer system in the form of a body with flexible material in torso area that simulates skin. However, Lacey/Petelin does not expressly teach that the panel is replaceable. Day teaches a surgical simulator system, which incorporates replaceable pre-cut access cavities that facilitates the entry of the

instruments into the body cavity (See Figure 1, element 1). Therefore, it would have been obvious to incorporate the feature of Day's invention into the system of Lacey/Petelin in order to make the maintenance of the device easier.

Response to Arguments

Applicant's argument with respect to claim rejections under 35 U.S.C 103 is moot in view of new grounds of rejection.

Citation of Pertinent Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1. Lemieux et al. (US 2002/0109053)
 - Ball Head camera support

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Banafsheh Hadizonooz whose telephone number is 571-272-1242. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xuan Thai can be reached on (571) 272- 7147. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BH

11/11/2008

/Cameron Saadat/
Primary Examiner, Art Unit 3715